

## ANNOTATED BIBLIOGRAPHY OF THE BLACK-FOOTED FERRET

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**ABSTRACT.**—An annotated bibliography of 351 references on the black-footed ferret (*Mustela nigripes*) shows 19 articles, mostly species descriptions, published from 1851 through 1899; 69 papers, mostly describing the range of the species, from 1900 through 1964; 156 papers dealing largely with the Mellette County, South Dakota, ferret research published from 1965 through 1980; and 107 publications since 1981 dealing primarily with the Meeteetse, Wyoming, ferrets.

This bibliography represents the first relatively complete annotated listing of the primary literature on the black-footed ferret. It builds on previous species summaries by Snow (1972), Harvey (1972), and Hillman and Clark (1980). This literature assemblage can serve as a statement of current information on the species and as background for future ferret conservation and recovery efforts.

### METHODS

We attempted to limit the references to those containing original data or new information in published books or scientific journals. A few secondary sources and popular articles provide good overviews and were included. No newspaper articles are cited. We used the existing literature in our libraries as well as the Yale University libraries. The literature cited in each article or book was sought for additional references. We feel that the historical literature, prior to 1960, is well represented. The scientific literature on the 1964–1974 South Dakota ferret research is also well covered, but less widely available popular works from these studies are not as well represented. We included some contract consulting reports to governmental agencies that contain valuable information, but some of these were also not readily available. We annotated all publications we saw.

### BLACK-FOOTED FERRET LITERATURE

This bibliography contains 351 references, nearly all of which are annotated. Nineteen

(5%) were published between 1851 (when the species was first described) and 1899. These articles include the first descriptions of the animal and its range, a decades-long controversy over the existence of the species, calls for more information, and confirmation of the validity and range of the species late in the century. Between 1900 and 1964, 69 (20%) articles were found. These articles focus largely on the distribution of the species along with a few accounts of its ecology and status and the first known photographs of both wild (1929) and captive (1906) animals. Between 1965 and 1980, 156 articles appeared. These largely comprise the Mellette County, South Dakota, studies from 1964 through 1974. These constitute a solid body of scientific data on the life history of wild ferrets, captive rearing attempts, and the status of the species as well as surveys for ferrets. Most of the 107 (30%) publications from 1981 to 1985 deal with the Meeteetse, Wyoming, ferrets—discovered in late 1981, as well as renewed interest in finding or transplanting ferrets in other states. Less than one publication appeared every two and one-half years for the first 50 years of our knowledge of ferrets. About one paper was published per year from 1900 through 1964. This rate jumped to 10 papers per year from 1965 to 1980 and then to 27 per year after 1981.

We realize that new publications will be forthcoming. We welcome additions to this bibliography, and we apologize for any citations that were inadvertently overlooked.

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## REFERENCES

- ALDOUS, S. E. 1940. Notes on a black-footed ferret raised in captivity. *J. Mammal.* 21:23–26.
- One BFF was kept in captivity for 5 months in 1929. Captured at 2400 meters in New Mexico in a *Cynomys gunnisoni* town, it ate many food items, "enjoyed" playing, and allowed nose and belly rubbing. It became "vicious" at maturity and was killed and made a study skin.
- ALLEN, G. M. 1941. Our rarer mammals. *Audubon* 43:151–160.
- This general account, accompanied by a photo, locates the range of the BFF, its dependence on prairie dogs, and its probable extirpation as a result of prairie dog poisoning. Suggests that BFFs and their prey could be maintained "unmolested in colonies on national reserves."
- . 1942. Extinct and vanishing mammals of the western hemisphere, with the marine species of all the oceans. *Amer. Comm. Int. Wildl. Protect. Spec. Publ.* 11. Lancaster, Pennsylvania. 620 pp.
- The apparent low number of BFFs is an adaptation to the prey base.
- ALLEN, T. B. 1974. Vanishing wildlife in America. National Geographic Society, Washington, D.C. 216 pp.
- Popular account of C. N. Hillman's research and predator control impacts on nontarget species.
- AMES, A. E. 1874. *Mammalia of Minnesota*. Minnesota Acad. Bull. 1/2:69.
- Lists *P. nigripes* in the fauna of the state.
- ANDERSON, E. 1968. Fauna of the Little Box Elder Cave, Converse County, Wyoming. The Carnivora. University of Colorado Studies Ser. Earth Sci. 6:1–59.
- A late Pleistocene deposit in Wyoming yielded remains of 15 BFFs, designated a distinct population on the basis of teeth characteristics. Only two other Pleistocene records are known, both in New Mexico.
- . 1973. Ferret from the Pleistocene of central Alaska. *J. Mammal.* 54:778–779.
- Pleistocene BFF remain from the Fairbanks District, Alaska, collected between 1938 and 1947, is identified as *Mustela (Putorius) evermanni michnoi*. Gradation of cranial characters between *M. nigripes* and *M. evermanni* is noted; additional analysis may find that there is only one Holarctic species.
- . 1977. Pleistocene Mustelidae (Mammalia, Carnivora) from Fairbanks, Alaska. *Bull. Mus. Comp. Zool.* 148:1–21.
- Mustelid remains from near Fairbanks, Alaska, include the steppe polecat (*Mustela (Putorius) evermanni*) and the Beringian ferret (*Mustela evermanni beringiae ssp. nov.*). This is the first record of *M. evermanni* in North America.
- ANDERSON, E., S. C. FORREST, T. W. CLARK, AND L. RICHARDSON. 1986. Paleobiology, biogeography, and systematics of the black-footed ferret, *Mustela nigripes* (Audubon and Bachman), 1851. *Great Basin Nat. Mem.* 8:11–62.
- A comprehensive look at the BFF's morphometry, distribution, and paleobiology.
- AREHART-TREICHEL, J. 1983. Black-footed ferret on the rebound. *Sci. News* 123:343.
- News report on research activities on BFF population found in Wyoming in 1981. Photo.
- ARMSTRONG, D. M. 1972. Distribution of mammals in Colorado. University of Kansas Mus. Nat. Hist. Monogr. No. 3. 415 pp.
- Brief discussion of BFF, map of collection locations. Pertinent concept of "salvage zoology" mentioned in preface.
- ARVEY, M. D., AND B. P. GLASS. 1950. The black-footed ferret in Oklahoma. *J. Mammal.* 31:460.
- Rediscovery of University of Oklahoma BFF museum specimen collected in 1928 near Norman, Oklahoma. Extends state range eastward.
- AUDUBON, J. J., AND J. BACHMAN 1851–1854. *Quadrupeds of North America*. V. G. Audubon, New York. 3 vol.
- The original technical description of the BFF, made from a single specimen from the Platte River. Detailed, qualitative descriptions of dentition, body characteristics, pelage, color, dimensions, habits, and geographic distribution. Notes that BFFs inhabit "wooded parts" and does not mention any association with prairie dogs. "It is with great pleasure that we introduce this handsome new species." The authors claim that they are not surprised that many species were overlooked in the rapid exploration of the West.

- BAILEY, V. 1905. Biological survey of Texas. U.S. Biol. Surv. North Amer. Fauna No. 25. U.S. GPO, Washington, D.C. 226 pp.
- Notes several occurrences of BFFs in Texas and cites Cary (1902) for reports from Stanton, Texas.
- . 1926. A biological survey of North Dakota. U.S. Biol. Surv. North Amer. Fauna No. 49. U.S. GPO, Washington, D.C. 226 pp.
- Early scientific description of North Dakota mammals, including *Mustela nigripes*.
- . 1932. Mammals of New Mexico. U.S. Biol. Surv. North Amer. Fauna No. 53. U.S. GPO, Washington, D.C. 412 pp.
- Very brief account concluding with the thought that "high living on easily obtained fat prairie dogs seems to be the only explanation of their scarcity."
- BAILEY, V., W. P. BELL, AND M. A. BRANNON. 1914. Preliminary report on the mammals of North Dakota. North Dakota Agric. Expt. Sta. Circ. No. 3, Fargo. 20 pp.
- BAIRD, S. F. 1857. General report on the mammals of North America, the descriptions of species based chiefly on the collections in the museum of the Smithsonian Institution. Philadelphia, J. B. Lippincott & Co. 764 pp.
- Brief description of BFF based entirely on Audubon and Bachman's description. Notes that "it is a little remarkable that so conspicuous and well marked a species should have eluded the notice of the recent explorers in the Platte region."
- BAKER, A. B. 1889. Mammals of western Kansas. Trans. Kansas Acad. Sci. 11:56–58.
- Describes BFF as predator of prairie dogs and as "nowhere numerous."
- BANFIELD, A. W. F. 1974. The mammals of Canada. University of Toronto Press. 396 pp.
- BELTSKY, D. 1985. Black-footed ferret habitat management in Meeteetse. Pages 5.1–5.4 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.
- Currently managed for livestock grazing and big game range, BFF habitat near Meeteetse is protected from major impact by suspension of proposed oil field development until other management strategies can be implemented.
- BERYMAN, J. H. AND N. C. JOHNSON. 1973. Ferret and prairie dog programs on public lands: a perspective and some facts. Pages 109–125 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.
- Bureau of Sport Fisheries and Wildlife lobbied for rational management of prairie dog colonies. Points out the USDI policy conflict of energy production vs. resource protection. Emphasizes need for compromise policies. Includes 1965 USDI BFF policy statement and 1972 USDI rodent poison guidelines.
- BIGGINS, D. E., M. H. SCHROEDER, S. C. FORREST, AND L. RICHARDSON. 1986. Activity of radio-tagged black-footed ferrets. Great Basin Nat. Mem. 8:135–140.
- Results of radio tagging studies of Wyoming BFFs are described.
- BIGGINS, D. E., M. H. SCHROEDER, S. C. FORREST, AND L. RICHARDSON. 1985. Movements and habitat relations of radio-tagged black-footed ferrets. Pages 11.1–11.17 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.
- Movements of four radio-tagged BFFs were monitored during the falls of 1981 and 1982. Lengths of movements are described and areas of activity characterized.
- BISAILLON, A. 1975. La musculature du membre pelvien du putois d'Amérique (*Mustela nigripes*, Audubon et Bachman). Anat. Anz. 139:486–504.
- Dissection of muscles of the pelvic limb of BFF. Musculature found to be very similar to other mustelids.
- BISHOP, N. 1972. Black-footed ferret and black-tailed prairie dog survey, 1972. Unpubl. U.S. Forest Serv., Medora Ranger Dist., Dickinson, North Dakota. 21 pp.
- Inventory of prairie dog colonies in 3 southwestern North Dakota counties.
- BISSEL, S. J. 1979. Black-footed ferret verification and habitat inventory, June 17, 1977–September 30, 1978. Unpubl. rept., Colorado Div. Wildl., Denver. 15 pp.
- BLACK-FOOTED FERRET FOUND; PUFFISH EXTINCT. 1981. Sci. News 120:340.
- 1981 Wyoming BFF find reported. Photo.
- BLAIR, W. F. 1954. Mammals of the Mesquite Plains biotic district in Texas and Oklahoma, and speciation in the central grasslands. Texas J. Sci. 6:235–264.
- A three-line note claims BFFs are very rare or extirpated in the Mesquite Plains district.
- BODDICKER, M. L. 1968. Parasites of the black-footed ferret. Proc. South Dakota Acad. Sci. 47:141–148.
- Fleas, ticks, nematodes, and mites were identified.

BOGAN, M. A. 1985. Needs and directions for future black-footed ferret research. Pages 28.1–28.5 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Two objectives are suggested: reconstitution of an advisory board to oversee BFF research and management, including more research representation, and important research topics, including basic ecology of Meeteetse BFFs, mortality factors, survey techniques, captive breeding and translocation, and prairie dogs.

BOGGS, E. K., F. R. HENDERSON, AND J. R. CHOATE. 1980. A black-footed ferret from Kansas. *J. Mammal.* 61:571.

The skull and left mandible of a subadult male BFF were found in Gove County, Kansas, in November 1978, representing the first of the species found in the state in over 20 years.

BREWSTER, W. G. 1985. Black-footed ferret conservation and recovery from a Fish and Wildlife Service Field Office perspective. Pages 29.1–29.4 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Calls for implementation of six strategies: (1) conserve existing population, (2) continue research and monitoring, (3) initiate captive propagation for future release, (4) continue search for other populations, (5) evaluate and identify future reintroduction sites, and (6) develop complete management plans for reintroduction sites and subject them to public review.

BRIGHTMAN, E. M., III. 1973. The black-footed ferret: the view of a conservation organization. Pages 24–26 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Audubon Society representative suggests "prairie dog bank" or colony leasing program to preserve faunal community. Example of pro- and anticaptive breeding polarization.

BURNETT, W. L. 1918. Rodents of Colorado in their economic relation. *Off. State Entom. Circ.* 25. Fort Collins, Colorado. 31 pp.

BURT, W. H., AND R. P. GROSSENHEIDER. 1964. A field guide to the mammals. Field marks of all species found north of the Mexican boundary. 2d ed. Houghton Mifflin, Boston. 284 pp.

Resume of BFF with weights of two adults.

CADA, J. D. 1985. Montana's role in ferret management and handling of ferret sightings. Pages 14.1–14.7 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Montana Department of Fish, Wildlife and Parks initiated a program with the ultimate goal of recovering BFFs in the state. Discussion includes agency cooperation and future plans. Appendices provide observation report form and follow-up procedures.

CAHALANE, V. H. 1954. Status of the black-footed ferret. *J. Mammal.* 35:418–424.

Reviews status of BFF and reports 50–70 animals from 42 sightings from a canvass of federal employees from 1948 to 1953. Range map based on reports included. States that complacency regarding BFF is unjustified.

CAMPBELL, T. M., III, D. E. BIGGINS, S. FORREST, AND T. W. CLARK. 1985. Spotlighting as a method to locate and study black-footed ferrets. Pages 24.1–24.7 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The use of spotlighting as a search and research method, historically and in present day, is discussed. Results of a pilot study to assess BFF responses to this technique are presented.

CARAS, R. A. 1967. *North American mammals*. Meredith, New York. 578 pp.

Brief popular account of characteristics and life history with tips for finding and observing BFFs. "surely . . . the last one you tick off on your lifetime checklist."

CARPENTER, J. W. 1977. Propagation and management of endangered species at the Patuxent Wildlife Research Center. *Proc. Amer. Assoc. Zoo Vet.* 1977:23–33.

An introduction to the research and propagation techniques of the Endangered Wildlife Research Program. Electro-ejaculation and artificial insemination used on surrogate species of ferrets are potential methods for use with BFFs.

— 1985. Captive breeding and management of black-footed ferrets. Pages 12.1–12.13 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

A captive breeding program was conducted at the Patuxent Wildlife Research Center from 1968 to 1979. Results of this effort are reviewed and prognosis for successful future programs discussed along with role of captive breeding as adjunct to habitat preservation, field studies, law enforcement, and public education.

CARPENTER, J. W., M. J. G. APPEL, R. C. ERICKSON, AND M. N. NOVILLA. 1976. Fatal vaccine-induced canine distemper virus infection in black-footed ferrets. *J. Amer. Vet. Med. Assoc.* 169:961–964.

Four wild-captured BFFs held at Patuxent Wildlife Research Center died within 21 days after vaccination with modified canine distemper virus.

- CARPENTER, J. W., J. D. DAVIDSON, M. N. NOVILLA, AND J. C. M. HUANG. 1980. Metastatic, papillary cystadenocarcinoma of the mammary gland in a black-footed ferret. *J. Wildl. Dis.* 16:587-592.
- Decline and death of female BFF held at Patuxent Wildlife Research Center. Individual was captive from 1972-1973 to 1978. Includes necropsy and histological findings.
- CARPENTER, J. W., AND E. F. HILL. 1979. Hematological values for the Siberian ferret (*Mustela erversmanni*). *J. Zoo. An. Med.* 10:126-128.
- Baseline hematologic and blood chemistry values for the Siberian ferret may serve as reference for the physiological and pathological conditions of the BFF.
- CARPENTER, J. W., AND C. N. HILLMAN. 1979. Husbandry, reproduction, and veterinary care of captive ferrets. *Proc. Amer. Assoc. Zoo Vet., Knoxville, Tenn.* 1979:36-47.
- Hundreds of European and Siberian ferrets held at the Patuxent Wildlife Research Center served as research surrogates for BFFs. The health of several wild-caught BFFs is discussed. Many husbandry, breeding, and surgical techniques were developed, and captive breeding may succeed if younger, genetically healthy BFFs are used.
- CARPENTER, J. W., AND M. N. NOVILLA. 1977. Diabetes mellitus in a black-footed ferret. *J. Amer. Vet. Med. Assoc.* 171:890-893.
- A case report of diabetes mellitus in a BFF is followed by necropsy and histopathologic findings. This condition may have implications for any remnant population in the wild.
- CARPENTER, J. W., M. N. NOVILLA, AND H. E. KAISER. 1981. Neoplasia and other disease problems in black-footed ferrets: implications for an endangered species. Pages 739-746 in H. E. Kaiser, ed., *Neoplasms: comparative pathology of growth in animals, plants, and man*. Raven Press, New York.
- Examines neoplasia and concurrent disease conditions in five captive BFFs and suggests that their origin is associated with genetic homozygosity resulting from inbreeding.
- CARR, J. F. 1973. A rancher's view towards prairie dogs. Pages 168-171 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.
- Wyoming rancher's insight into the sources of social/political conflict between preservationists, agencies, and private landowners.
- CARY, N. 1911. A biological survey of Colorado. U.S. Biol. Surv. North Amer. Fauna no. 33. U.S. GPO, Washington, D.C. 256 pp.
- Maps BFFs in plains of Colorado. States that they are most beneficial because they prey on prairie dogs.
- CHASE, G. E. 1960. The Recent mammals of Arizona: their taxonomy and distribution. University of Arizona Press, Tucson. 276 pp.
- . 1973. Prairie dogs, ferrets, and cattle—conflict on the plains. *Anim. Kingdom* 76(2):2-8.
- Different perceptions of the role of prairie dogs in ecosystems affects the survival of both *Cynomys* and *M. nigripes*. Basic review of BFF life history, behavior, and habitat loss dilemma.
- CHARLES, G. 1965. Will they survive? *South Dakota Conserv. Dig.* 32(2):6-8.
- CHOATE, J. R., E. K. BOGCESS, AND F. R. HENDERSON. 1982. History and status of the black-footed ferret in Kansas. *Trans. Kansas Acad. Sci.* 85:121-132.
- The BFF was probably common in certain areas of Kansas west of the Flint Hills. Twenty-eight of 38 museum specimens from the state were collected before 1900, and most were males. Agriculture and prairie dog control blamed for demise of the BFF.
- CLARK, T. W. 1973. Prairie dogs and black-footed ferrets in Wyoming. Pages 88-101 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.
- Attempt to inventory prairie dogs and BFFs. Author reports on a mail survey for BFFs and prairie dogs in Wyoming. Lists and maps of black- and white-tailed prairie dog colonies and BFF locations in 1971 and historical times.
- . 1974a. "Black-footed ferrets"—searching for America's rarest mammal. *Cow Country*, May:28.
- A one-page introduction to the BFFs appearance and habits, history of search efforts in Wyoming, and a plea for information.
- . 1974b. Ferrets—are there any left in Wyoming? *Wyoming Agric.*, April:6-7.
- A quick introduction to the BFF and its sign with a request for information.
- . 1974c. Vanishing bandits of the prairie. *Wyoming Wildl.* 38(6):32-33.
- Outlines history of BFFs in Wyoming leading up to 1974d campaign to record recent sightings.
- . 1974d. A vanishing friend. *Wyoming Rural Electric News*, April:10.
- Yet another introduction to the BFF, part of the author's early 1970's campaign to publicize BFFs and gather information.

\_\_\_\_\_. 1975a. Wyoming's search for black-footed ferrets. Wyoming Rural Electric News, September: 10-11.

Another introduction to the species, this time focusing on sightings and remains that were turned up by the author's "Ferret Search."

\_\_\_\_\_. 1975b. Some relationships between prairie dogs, black-footed ferrets, Paleo-Indians and ethnographically known tribes. Plains Anthropol. 20:67: 71-74.

Fifteen BFF remains found at one Paleo-Indian site in Wyoming. BFFs used as religious objects and head-dress pendants.

\_\_\_\_\_. 1976. The black-footed ferret. Oryx XIII:275-280.

Popular account of historical and ecological details of BFFs.

\_\_\_\_\_. 1978a. Current status of the black-footed ferret in mining. J. Wildl. Manage. 42:128-133.

Review of BFF reports in Wyoming, hypotheses about BFF decline, and methods of searching for populations. Recommends prairie dog management techniques for BFF preservation, including termination of control on all colonies suspected of supporting BFFs.

\_\_\_\_\_. 1978b. Losing the ferret. Defenders Wildl., January:245-248.

Discussion of conflicting agency responsibilities toward BFFs. Lack of information on prairie dog control makes it hard to assess status of BFF. New location techniques are necessary.

\_\_\_\_\_. 1980. A listing of reports of the black-footed ferret in Wyoming (1851-1977). Northwest Sci. 54: 47-54.

Lists and evaluates 148 Wyoming BFF reports. The increasing number of reports in recent years is the result of increased concern for the BFF, not an indication of increased abundance.

\_\_\_\_\_. 1982. Status of the rare and endangered black-footed ferret in Wyoming. Natl. Geog. Soc. Res. Rept. 14:95-105.

145 valid BFF sightings in Wyoming were collected during a search effort in 1973-1975 resulting from a publicity campaign throughout the state. Evaluation criteria are given; a map shows locations of reports. Concludes that the existence of BFFs is verified.

\_\_\_\_\_. 1983. Last of the black-footed ferrets? Natl. Geog. 163:828-838.

A short popular account of some highlights of the first year's research on Wyoming BFFs. Many excellent photos.

\_\_\_\_\_. 1984a. Biological, sociological and organizational challenges to endangered species conservation: the black-footed ferret case. Human Dimensions in Wildl. Newsletter 3:10-15.

Outlines problems on several fronts that must be overcome to set up successful conservation programs.

\_\_\_\_\_. 1984b. Strategies in endangered species conservation: research view of the ongoing black-footed ferret conservation studies. Pages 145-154 in Symposium on Issues in Technology and Management of Impacted Western Wildlife, Steamboat Springs, Colorado, November, 1982.

As a step toward developing a case history, the role of the private research arm of the Wyoming BFF program is presented. The historic role of the conservation community in wildlife protection, management, and study is reviewed, and some ideas for achieving model conservation programs are brought together.

\_\_\_\_\_. 1985a. The Meeteetse black-footed ferret conservation studies. Natl. Geog. Res.:299-302.

Reports progress in a study "directed toward those parameters of ferret-prairie dog relationships which are significant for the conservation of the ferret."

\_\_\_\_\_. 1985b. Black-footed ferret studies in Wyoming. Natl. Geog. Res. 18:223-231.

Search efforts in Wyoming in 1979 are reported, the environments around 10 reported BFF sightings are described, and BFF habitat is discussed.

\_\_\_\_\_. 1986. Some guidelines for management of the black-footed ferret Great Basin Nat. Mem. 8: 160-168.

Specific management guidelines for monitoring and protecting the Wyoming BFF and its habitat are given. The BFF's current status and all the primary baseline data sources and methods are identified.

CLARK, T. W., AND T. M. CAMPBELL III. 1981a. Additional black-footed ferret (*Mustela nigripes*) reports from Wyoming. Great Basin Nat. 41:360-361.

39 BFF sightings added to Clark 1980. Addendum reports 26 September 1981, dog-killed BFF from Park County, Wyoming.

\_\_\_\_\_. 1981b. Suggested guidelines for black-footed ferret surveys. Printed by the authors, Biota Research and Consulting, Inc., Box 2705, Jackson, Wyoming 83001.

State-of-the-art description of field survey techniques. Recovery team reviewed these guidelines and declared them adequate. Introduces a method for comparing intensity of nocturnal searches.

\_\_\_\_\_. 1983. A small carnivore survey technique. Great Basin Nat. 43:438-440.

A track station survey method has implications for BFF surveys.

CLARK, T. W., T. M. CAMPBELL III, M. H. SCHROEDER, AND L. RICHARDSON. 1984. Handbook of methods for locating black-footed ferrets. Wyoming Bur. Land Manage. (Cheyenne) Wildl. Tech. Bull. No. 1. 55 pp.

Detailed methods for conducting BFF surveys. Discusses general life history and BFF sign. Photos of BFFs, diggings, tracks, scats. Appendices include reprints of Hillman and Clark 1980 and Fortenbery 1972, additional references, a key to mustelid skulls, and a postcranial comparison of the prairie dog and BFF.

CLARK, T. W., S. C. FORREST, L. RICHARDSON, D. E. CASEY, AND T. M. CAMPBELL III. 1986. Description and history of the Meeteetse black-footed ferret environment. Great Basin Nat. Mem. 8:72-84.

Climate, soils, and vegetation of the BFF-occupied area are described along with a history of ranching, poisoning, and grazing. The area contains evidence of a historically larger prairie dog complex.

CLARK, T. W., L. RICHARDSON, D. CASEY, T. M. CAMPBELL III, AND S. C. FORREST. 1984. Seasonality of black-footed ferret diggings and prairie dog burrow plugging. J. Wildl. Manage. 48:1441-1444.

Configuration, rate of production, persistence, and seasonality of BFF diggings and prairie dog burrow plugging patterns on white-tailed prairie dog colonies are described based on a two-year sample. The results have implications for timing and "search images" of prescribed BFF and BFF-sign searches.

CLARK, T. W., L. RICHARDSON, S. C. FORREST, T. M. CAMPBELL III, D. E. CASEY, AND K. A. FAGERSTONE. 1985. Black-footed ferret prey base. Pages 7.1-7.14 in S. Anderson and D. Inkley, eds., Wyoming Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The BFF-occupied prairie dog complex totals about 3,000 ha in 33 colonies; the Big Horn Basin has 40,485 ha in 250 colonies, and the state has an estimated 6,000 colonies. Ferret/prairie dog computer models are reviewed and recommendations made for transplants and captive breeding.

CLARK, T. W., L. RICHARDSON, S. C. FORREST, D. E. CASEY, AND T. M. CAMPBELL III. 1986. Descriptive ethology and activity patterns of black-footed ferrets. Great Basin Nat. Mem. 8:115-134.

Observations of BFFs between December 1981 and September 1984 included ferret maintenance behaviors (locomotion, alert, grooming and sunning, defecation and urination, digging, and predation) and social behaviors (reproduction, ontogeny, maternal, play, and agonistic).

CLARK, T. W., AND J. L. WEAVER. 1981. Mammals. Pages 50-64 in T. W. Clark and R. D. Dorn, eds., Rare and endangered vascular plants and vertebrates of Wyoming, 2d ed. Offset. 66 pp.

Account of distinguishing characteristics, habitat, present and former distribution, reasons for decline, and legal status of BFF.

COCKRUM, E. L. 1952. Mammals of Kansas. Univ. Kans. Mus. Nat. Hist. Publ. 7:1-303.

BFF distributed in western half of Kansas.

COLLINS, E., AND R. W. LICHVAR. 1986. Vegetation inventory of current and historic black-footed ferret habitat in Wyoming. Great Basin Nat. Mem. 8:85-93.

Prairie dogs occur in two of eight vegetation types in the BFF-occupied area (junegrass and sagebrush/junegrass), whereas four other prairie dog complexes with historic BFF occupancy occurred in six vegetation types. Similarities of the five complexes were plant heights < 66 cm, level to gently rolling topography, and severe human-caused disturbance. Conclusion that vegetation type alone should not be used to identify BFF habitat.

CORBET, G. B. 1978. The mammals of the Palearctic Region: a taxonomic review. British Museum and Cornell University Press, New York. 314 pp.

Mentions that *M. eversmanni* is considered conspecific with BFF.

CORDER, R. L. 1968. The black-footed ferret. Natl. Parks 42:7-8.

BFF considered third rarest animal in America. Populations declined along with prairie dogs. General overview; asks for reports.

COUES, E. 1874. Wanted. Amer. Sportsman 5:1.

Calls for specimens of BFF to benefit science.

\_\_\_\_\_. 1877. Fur-bearing animals: a monograph of North American Mustelidae. U.S. Geol. Surv. of the Territories, Misc. Publ. No. 8. U.S. GPO, Washington, D.C.

Contrary to other accounts, the BFF was not rare on the prairie. Created a new subgenus for BFF based on skull characteristics. The earliest "full account" of the species based on examination of several specimens, some in response to his advertisements for specimens. Describes distribution (expected to be enlarged) and detailed body characteristics. Notes that "its retiring habits, and the nature of its resorts, doubtless tend(ed) to screen it" despite extensive exploration of the West.

\_\_\_\_\_. 1882. The black-footed ferret (*Putorius nigripes*) in Texas. Amer. Nat. 16:1009.

BFF captured near Abilene, Texas, in 1882 is placed on exhibition at Cincinnati Zoological Gardens. The specimen expands the known range in Texas. Called a "rare species."

CRABB, W. D., AND G. W. WATSON. 1950. Black-footed ferret in Montana. *J. Mammal.* 31:99.

Lists two BFF occurrences in southcentral Montana during 1948–1949. One specimen was road killed, the other shot in a prairie dog town.

CRAGIN, F. W. 1885. Notes on some mammals of Kansas, with a few additions to the list of species known to inhabit the state. *Bull. Washburn College Lab. Nat. Hist.* 1:42–47.

CRANDELL, L. S. 1964. The management of wild mammals in captivity. University of Chicago Press, Chicago. 761 pp.

Information on BFF feeding trials.

CRETE, R. 1985. Current activities of the U.S. Fish and Wildlife Service in black-footed ferret recovery management. Pages 15.1–15.6 in S. Anderson and D. Inkle, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Outlines FWS responsibility in implementation of recovery plans, including responses to sightings, training programs, formulating criteria to identify recovery areas, survey methods, law enforcement, etc.

DALQUEST, W. W. 1968. Mammals of northcentral Texas. *Southwest. Nat.* 13:13–21.

DART, M. 1879. On the plains, and among the peaks; or, How Mrs. Maxwell made her natural history collection. Claxton, Remsen and Hffelfinger, Philadelphia. 237 pp.

A woman naturalist and taxidermist had two or three BFFs in her collection, confirmed by Cones. They were drowned out of prairie dog burrows or trapped. She kept one captive, fed it beef, and kept it in a wire cage, where it was active at night. It became quite tame.

DAY, A. M., AND A. P. NELSON. 1929. Wildlife conservation and control in Wyoming under the leadership of the United States Biological Survey. *Joint Pub. U.S. Biol. Surv., Wyoming Game Fish Dept., Wyoming State Extension Serv., Wyoming Dept. Agric. Wyoming State Hist. Pub.* 26 pp.

Ten BFFs taken in predator control activities in state between 1916 and 1928.

DEXTER, W. D. 1985. Introductory remarks. Pages 1.1–1.2 in S. Anderson and D. Inkle, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Defines purpose of meeting to review status of searches, research, and management with 35 invited scientists. Reviews establishment of advisory team to provide department with broad input to research and management and ad hoc committee to evaluate captive breeding facilities.

DIXON, L. M. H. SCHROEDER, AND S. J. MARTIN. 1980. A serious game of hide and seek. *Wyoming Wildl. XLIV(6):*12–15.

Overview of BFF ecology and history. 1978 and 1979 Wyoming coal lease surveys yielded six BFF skulls but no live BFFs. Techniques included dogs and winter helicopter and snowmobile searches. Three more years of searches are planned for four likely areas based on historical and recent evidence.

DOHERTY, J. C. 1970. Black-footed ferret. *Anim. Kingdom* 73(1):33.

Brief review of *Mustela nigripes* plight. Suggests protection of both prey and habitat. Photo of zoo-held animal.

DURRANT, S. D. 1952. Mammals of Utah: taxonomy and distribution. University of Kansas Mus. Nat. Hist. Publ. No. 6. 549 pp.

Brief account listing single specimen for state; states that species was not expected to be found north of the Colorado River.

EMERSON, K. C. 1964. Checklist of the Mallophaga of North America (north of Mexico). Pt. 1. Sub-order Ischnocera. Dugway Proving Ground, Dugway, Utah. 171 pp.

Lists the louse *Neotrichodectes minutus* as a BFF parasite.

ERICKSON, R. C. 1968. A federal research program for endangered wildlife. *Trans. North Amer. Wildl. Nat. Resour. Conf.* 33:418–433.

Description of Patuxent Wildlife Research Center's responsibility for "technical investigation and propagation of rare and endangered species." BFF considered one of the priority species. Applications toward improved survey techniques, ensuring adequate precontrol surveys. Mentions disease as captive-breeding problem; for BFF, rabies, distemper, and tularemia are major concerns.

—. 1973. Some black-footed ferret research needs. Pages 153–164 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Discusses research needs: increasing animal reproductions, survival and population in historical range. Brief sections on BFF populations and distributions, mobility and spatial requirements, behavioral and biological characteristics, vertebrate associates, and development of management practices.

ETTER, A. G. 1965. How to endanger a ferret. *Defenders Wildl. News* 40(4):30–38.

Popular description of BFF and prey relations. Links bison, cattle, prairie dogs, and BFF. Description of pest control vs. endangered species program politics.



FAGERSTONE, K. A. 1986. Comparison of capture-recapture and visual count indices of prairie dog densities in black-footed ferret habitat. Great Basin Nat. Mem. 8:94-98.

Prairie dog surveys in the Meeteetse area are described along with recommended procedures for surveys in areas being assessed for BFF transplant sites.

FAGERSTONE, K. A., D. E. BIGGINS, AND T. M. CAMPBELL III. 1985. Marking and radio-tagging of black-footed ferrets (*Mustela nigripes*). Pages 10.1-10.10 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The history of the development of marking and radio-tagging techniques by the Denver Wildlife Research Center is reviewed, and current techniques described.

FICHTER, E., AND J. K. JONES, JR. 1953. The occurrence of the black-footed ferret in Nebraska. J. Mammal. 34:385-388.

Review of Swenk's (1908) Nebraska BFF records, most from the southcentral loess plains. Range map.

FISHER, J., N. SIMON, AND J. VINCENT. 1969. Wildlife in danger. Viking Press, New York.

Synopsis of BFF as an endangered species. Mentions agency efforts to manage species.

FLATH, D. L., AND T. W. CLARK. 1984. Montana: crucial key to ferret recovery. Montana Outdoors 15(3):34-37. Reprinted in Defenders 59(5) (September-October):30-34.

General history of ferrets and search techniques focusing on Montana. State Department of Fish, Wildlife, and Parks decision to search for ferrets in Montana and its implications for the agriculture and livestock industries.

———. 1986. Historic status of black-footed ferret habitat in Montana. Great Basin Nat. Mem. 8:63-71.

Northern Pacific Railroad lands were surveyed 1908-1914 (just prior to widespread prairie dog poisoning). Of 6,661 sections in 22 counties in Montana, 1,662 (25%) contained some prairie dogs. Totalling a minimum of 47,568 ha in 1914, prairie dog colonies have been reduced in the area by 90+%. Implications for BFFs and their possible reintroduction are discussed.

FORREST, S. C., T. W. CLARK, L. RICHARDSON, D. BIGGINS, K. A. FAGERSTONE, AND T. M. CAMPBELL III. 1985. Life history characteristics of the genus *Mustela*, with special reference to the black-footed ferret, *Mustela nigripes*. Pages 23.1-23.14 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Common attributes of 10 mustelids are high turnover rates, high juvenile mortality, and low average life spans (< 1 yr). BFFs bear 3.38 young/year, exhibit equal juvenile sex ratios, and females breed and bear young at one year of age. High annual declines have been observed.

FORREST, S. C., T. W. CLARK, L. RICHARDSON, AND T. M. CAMPBELL III. 1985. Black-footed ferret habitat: some management and reintroduction considerations. Wyoming Bur. Land Mgmt. Wildl. Tech. Bull. No. 2, Cheyenne. 49 pp.

FORTENBERY, D. K. 1969. Green eyes and a mask—seen any lately? Insight, November:1,4.

———. 1972. Characteristics of the black-footed ferret. U.S. Fish and Wildl. Serv. Resour. Publ. 109. 8 pp.

Good semitechnical review of BFF characteristics and ecology. Good comparison with congeners. Illustrations of seats, trenches, and congeners.

FRARY, L. G. 1985. Black footed ferret/prairie dog management on national forest system lands. Pages 16.1-16.6 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Discusses policies for prairie dog management and control and BFF surveys and sightings on national forests and national grasslands.

GARST, W. E. 1954. Black-footed ferret in South Dakota. J. Mammal. 35:594.

Six BFFs located by government employees following prairie dog poisoning in Haakon County. Litter of 5 captured: 2 died, 3 released in Wind Cave National Park.

GEORGE, J. 1969. From the brink of extinction: endangered wildlife research program. Nat. Wildl. 7:20-23. (Reprinted Read. Dig. 94:214-218.)

Review of research activities of the Endangered Species Research Program since its inception in 1965. Brief mention of BFF captive propagation program.

GETZ, L. L. 1960. Middle Pleistocene carnivores from southwestern Kansas. J. Mammal. 41:361-365.

GILBERT, B. 1980. Missing and presumed to be dead. Sports Illus. 53(16):102-114.

Popular account of the politics of the BFF leading to its "de-emphasis" by federal officials in 1980.

GORDON, C. 1965. Our vanishing species: will they survive? South Dakota Conserv. Dig. 32(2):6-8.

GRAY, J. E. 1865. Proceedings of the Zool. Soc., p. 110.

Lists species and mentions that it was not seen by S. Baird. The single question mark indicating the author's doubting the existence of the species set off a decade-long controversy.

GRINNELL, G. B. 1895. *The story of the Indian*. D. Appleton Co., New York. 270 pp.

Nebraska Pawnees believed BFFs had supernatural power and were able to kill men.

———. 1896. Range of the black-footed ferret. *Forest and Stream* 47(5):84.

A letter in response to Merriam's *Synopsis of the weasels of North America* extends the range north in Montana, to the foothills of the Rockies, and to the Continental Divide Basin in Wyoming. Includes personal observations, Indian accounts, and some life history information for BFFs.

GRODE, M. R. 1985. The black-footed ferret in Colorado. Pages 17.1–17.4 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Reviews historic records and Division of Wildlife processing of reports. Although there is no current BFF project, preliminary work in summer spotlighting, winter ground searches, and prairie dog mapping has begun. A BFF scat was positively identified in 1983.

GRONDAHL, C. R. 1973. Status of the black-tailed prairie dog and the black-footed ferret in North Dakota. Pages 51–60 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

BFF habitat restricted to southwestern North Dakota. Lists by county the number of towns and acreages of black-tailed prairie dogs and BFF sightings from 1910 to 1973. No recent "verified" reports.

GROVES, C. R., AND T. W. CLARK. 1986. Determining minimum population size for recovery of the black-footed ferret. *Great Basin Nat. Mem.* 8:150–159.

Minimum viable population size is estimated by five methods: experiments, biogeographic patterns, theoretical models, simulation models, and genetic considerations. Genetic factors suggest a MVP of about 200 BFFs for short-term fitness. Implications for research, management, and recovery efforts.

HAILEY, D. 1978. The weasel tribe. *Defenders* 53: 265–272.

General review of mustelid and BFF life history.

HALL, E. R. 1951. *American weasels*. University of Kansas Publ. Mus. Nat. Hist. 466 pp.

Standard reference to weasel life history.

———. 1966. The endangered black-footed ferret. *Defenders Wildl. News* 41:109.

———. 1981. *Mammals of North America*, 2d ed., 2 vol. John Wiley and Sons, New York. 1,181 pp.

Technical account of characteristics, distribution, and taxonomy. Includes drawings of animal and skull, and a range map.

HALLORAN, A. F. 1950. The black-footed ferret. *Arizona Wildl.-Sport.* 11(10):9.

———. 1964. The mammals of Navajoland. *Navajo Tribal Mus.*, Window Rock, Arizona. 23 pp.

Brief description with two reports from Navajoland from 1936 and 1940. The Navajo name is "dlo'ii liz-hinii," meaning black weasel.

HAMMER, D. A. 1985. The handling of black-footed ferret sighting reports in Wyoming. Pages 18.1–18.4 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Historic records of BFFs in Wyoming are noted. Report handling consists of detailed interviews, possible site visits and searches, and departmental filing.

HAMMER, D. A., AND S. H. ANDERSON. 1985. Using scent attractants as a technique to locate black-footed ferrets. Pages 26.1–26.12 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Sixteen scent attractants were evaluated as BFF lures in the lab, and six were subsequently evaluated in the field in known BFF-occupied areas. No BFF visitations were documented.

HARDING, A. R. 1943. *Ferret fact and fancies*. A. R. Harding Publ. Co., Columbus, Ohio. 214 pp.

Aspects of fitch ferret life including diseases pertinent to BFFs.

HARJU, H. J. 1985a. Black-footed Ferret Advisory Team efforts. Pages 4.1–4.4 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The advisory team was created to oversee BFF work in an area of varied land and management jurisdiction. Representing management agencies and private concerns, it has reviewed research-management and information education plans, reviewed and approved research, sought funding for research, mediated BFF-development conflicts, and maintained control of all BFF-related activities in the state.

\_\_\_\_\_. 1985b. Needs for black-footed ferret research and management: Wyoming Game and Fish Department perspectives. Pages 30.1–30.4 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Research needs include additional data on movements, dispersal, and mortality, and evaluation of potential transplant sites, captive breeding techniques, and search techniques. Management needs include finding BFFs, enhancing habitat or mitigating its loss, dealing with BFF/mineral development conflicts and prairie dog control, and conducting public relations campaigns.

HARVEY, L. 1970. Black-footed (*Mustela nigripes*); a bibliography. Bibliog. Ser., USDI. No. 17. 23 pp.

Bibliography of BFF literature organized to assist wildlife management personnel. Includes ecology, life history, index of man's interactions. Also includes geographic index and layman's reading list.

HASENYAGER, R. 1985. Utah's ferret program—past, present and future. Pages 19.1–19.2 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The Utah Division of Wildlife Resources has improved its network for receiving, investigating, and recording BFF sightings, plans intensive surveys of 2 areas, and seeks guidelines for dealing with the discovery and management of BFFs.

HASSIEN, F. D. 1976. A search for black-footed ferret in the Oklahoma Panhandle and adjacent area and an ecological study of black-tailed prairie dogs in Texas County, Oklahoma. Unpublished thesis: Oklahoma State University, Stillwater.

HAYDEN, F. V. 1863. On the geology and natural history of the Upper Missouri. Part 3. Zoology and botany. Chapter 15, Mammals. Trans. Amer. Phil. Soc. 12:138–151.

Mentions skin examined and described by Audubon and Bachman from Fort Laramie.

HENDERSON, F. R. 1966. Watching I Top Ta Sap A. South Dakota Conserv. Dig. 33(5):16–18.

\_\_\_\_\_. 1968. Ferret search on in Kansas. Kansas Fish and Game 26(1):18–21.

Overview of BFF ecology with distribution and abundance in Kansas. Good photographs of BFFs and winter trench.

\_\_\_\_\_. 1969. Wanted: Black-footed ferret. Coop. Ext. Serv., Kansas State University, Manhattan. 8 pp.

HENDERSON, F. R., AND R. J. LITTLE. 1973. Status of the black-footed ferret and black-tailed prairie dog in Kansas. Pages 34–40 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

Most BFF sightings of recent decades were in the western half of Kansas. Most recent specimen captured in 1957. In 1969–1970 state searched for BFFs through a media campaign and follow-up field investigations. BFF listed as extirpated by the Soil Conservation Service and Kansas Academy of Science in 1973.

HENDERSON, F. R., F. SPRINGER, AND R. ADRIAN. 1969. The black-footed ferret in South Dakota. South Dakota Dept. Game, Fish and Parks Tech. Bull. No. 4. 37 pp.

Government document on all aspects of BFFs, resulting from study of the Mellette County, South Dakota, population. Study had three goals: (1) determination of distribution and status of South Dakota BFFs, (2) gathering of life history, behavioral and ecological data, and (3) development of location techniques.

HERMAN, M., AND E. E. WILLARD. [1977]. Black-footed ferret and its habitat. Montana For. Conserv. Expt. Sta., U.S. For. Serv. 24 pp.

Summary of BFF historical distribution, present status, and habitat relationships. Primarily a literature review. Includes extensive reference section by subject and a conceptual model of BFF habitat.

HERSHKOVITZ, P. 1966. Status of the black-footed ferret in Wyoming. J. Mammal. 47:346–347.

Close-range sighting of BFF crossing highway east of Casper, Wyoming.

HIBBARD, C. W. 1934. The occurrence of *Erethizon epixanthum* Bruneri and *Mustela nigripes* in Kansas. J. Mammal. 15:70–71.

Notes that BFF had not been seen in the state for many years but reports a road-killed specimen from 1930 was mounted and given to the university museum.

\_\_\_\_\_. 1944. A checklist of Kansas mammals, 1943. Trans. Kans. Acad. Sci. 47:61–85.

“Due to the destruction of most of the prairie-dog towns in Kansas the Black-footed Ferret is now on the verge of extinction in the State.”

HILL, E. F., AND J. W. CARPENTER. 1982. Responses of Siberian ferrets to secondary zinc phosphide poisoning. J. Wildl. Manage. 46:678–685.

Zinc phosphide-poisoned rats were fed to 16 Siberian ferrets (*Mustela eversmanni*). Ferrets accepted rats and 3 individuals had an emetic response to the toxin. Authors conclude that emetic reflex protects carnivores against zinc phosphide poisoning but state the necessity of secondary “safe” prey items following poisoning of primary prey.

HILLMAN, C. N. 1968a. Field observations of black-footed ferrets in South Dakota. *Trans. North Amer. Wildl. Nat. Resour. Conf.* 33:433-443.

Results of 1966-1967 field study of BFF population in Mellette County, southwestern South Dakota. Data on diurnal activity, reproduction, and mother/young behavior; food habits and dispersal; behavioral response of *Cynomys* to BFFs. Description of BFF sign. Domestic ferret (*Mustela putorius*) 1080 feeding experiment.

———. 1968b. Life history and ecology of the black-footed ferret in the wild. Unpublished thesis, South Dakota State University, Brookings. 28 pp.

Field observations revealed activity patterns, behavior, movements, food habits, and BFF/prairie dog relationships.

———. 1974. Status of the black-footed ferret. Pages 75-81 in *Symposium on Endangered and Threatened Species of North America Proceedings*. Wild Canid Survival and Research Center, St. Louis, Missouri.

A solid review of the South Dakota research on BFF life history, past and present distribution, and current programs and problems. Noteworthy is the insight that "observational" efforts are not providing answers needed for effective management.

HILLMAN, C. N., AND D. K. FORTENBERRY. 1967. Field studies of the black-footed ferret in South Dakota. *Wildlife Society, Central Mountains and Plains Section, 12th Annual Conf.*, Rapid City, South Dakota, 1967. Abstract (mimeograph).

An early report of the South Dakota studies giving observations of basic BFF distribution and ecology.

HILLMAN, C. N., AND R. L. LINDER. 1973. The black-footed ferret. Pages 10-23 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Synopsis of South Dakota BFF population work. Describes distribution, behavior, sign, BFF effects on prairie dogs, and research and management needs.

HILLMAN, C. N., R. L. LINDER, AND R. B. DAHLGREN. 1979. Prairie dog distributions in areas inhabited by black-footed ferrets. *Amer. Midl. Nat.* 102: 185-187.

Distribution of black-tailed prairie dog colonies in Mellette County, South Dakota, was examined to determine characteristics of BFF habitat. BFFs had been observed on 14 of 86 colonies in the study area. Management recommendations concerning size and distribution of colonies for BFFs are made.

HILLMAN, C. N., AND J. W. CARPENTER. 1980. Masked mustelid. *Nature Conservancy News*, March-April:20-23.

A good popular article describing the plight of the BFF, its life history, and captive breeding attempts in the 1970s, with mention of current location techniques and management efforts.

———. 1983. Breeding biology and behavior of captive black-footed ferrets. *Intl. Zoo Yearbook* 23:186-191.

The breeding biology and behavior of four wild-caught BFFs held at Patuxent Wildlife Research Center and studied 1975-1978 were similar to closely related mustelids. Reproductive disorders and other pathologic conditions were encountered.

HILLMAN, C. N., AND T. W. CLARK. 1980. *Mustela nigripes*. *Mamm. Species No.* 126. 3 pp.

Up-to-date technical synopsis of species.

HILLMAN, C. N., AND W. A. WENTZ. 1985. Private sector perspectives on needs and direction of ferret research and management. Pages 32.1-32.5 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Experiences with BFFs in South Dakota are applied to the Wyoming population. It is recommended that long-term funding be developed to maintain and enhance the species.

HINCKLEY, D. K., AND J. E. CRAWFORD. 1973. Ferret and prairie dog programs on the national resource lands. Pages 133-135 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Authors estimate 30 million acres of federal land are suitable for prairie dogs. Managing for prairie dogs is managing for BFFs. Mentions progress in search methods and inventorying of prairie dog colonies.

HOFFMANN, R. S., P. L. WRIGHT, AND F. E. NEWBY. 1969. The distribution of some mammals in Montana. I. Mammals other than bats. *J. Mammal.* 50: 579-604.

Lists state records for the BFF, the last in 1953.

HOMOLKA, C. L. 1964. Our rarest mammal? *Audubon Mag.* 66:244-246. (Reprinted 1965, *The black-footed ferret*, *Oryx* 8:105-106.)

Overview of rarest mammal and man's failure to refrain from habitat destruction.

———. 1967. This masked bandit is definitely on the nation's wanted list-wanted alive. Experts claim only 20 are left. *Nebraskaland* 45(8):53.

HOOGLAND, J. L. 1981. The evolution of coloniality in white-tailed and black-tailed prairie dogs (Sciuridae: *Cynomys leucurus* and *C. ludovicianus*). *Ecology* 62:252-272.

A six-year study indicated that reduced predation may be the most important benefit of prairie dog coloniality. Discusses the possible effect of nocturnal, burrow-entering BFF on prairie dogs compared to diurnal predators.

———. 1982. Reply to a comment by Powell, notes and comments. *Ecology* 63:1968–1969.

Debate over costs and benefits of coloniality in prairie dog species. Powell suggested that white-tails are less dense because their range overlaps less with BFF than black-tails. Hoogland answers cogently that the BFF range overlap with black-tails should be interpreted as an effect of greater colony density, not a cause.

HOOPER, E. T. 1941. Mammals of the lava fields and adjoining areas in Valencia County, New Mexico. University of Michigan Mus. Zool. Misc. Publ. No. 51. 47 pp.

HOUSTON, B., T. W. CLARK, AND S. MINTA. 1986. Habitat suitability index model for the black-footed ferret: a method to locate transplant sites. *Great Basin Nat. Mem.* 8:99–114.

An HSI model following the U.S. Fish and Wildlife Service model series assumes that BFFs can meet year-round habitat requirements within prairie dog colonies providing colonies are large enough, burrows are numerous enough, and adequate numbers of prairie dogs and alternate prey are available. Literature is reviewed and model assumptions and structure are discussed.

HUBBARD, J. P., AND C. G. SCHMITT. 1984. The black-footed ferret in New Mexico. Final report to BLM Santa Fe, New Mexico, under BLM Contract No. NM-910-CT1-7 to Dept. Game Fish, Santa Fe, and under New Mexico Dept. Game Fish Proj. FW-17-R.

A comprehensive summary of background information on BFFs and the status of both prairie dogs and BFFs in the state, with special emphasis on historic records and recent efforts to locate BFFs.

INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES. 1982. Black-footed ferret. Pages 349–351 in *IUCN Red Data Book*. Morges, Switzerland.

Excellent summary of BFF including brief discussion of ecology, threats to survival, conservation measures taken and proposed.

JOHMAN, W. G., AND M. E. ANDERSON. 1981. Potential present range of the black-footed ferret as of January 1, 1981. Unpubl. rept., U.S. Fish Wildl. Serv., Pierre, South Dakota. 65 pp.

———. 1985. Legal status and required action: ferret research and management. Pages 2.1–2.8 in S. Anderson and D. Inkle, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

A literature review of laws that affect BFF research and management revealed that the major law is the 1973 Endangered Species Act, although other laws have key significance when particular recovery actions are taken.

JOHNSON, D. 1969. Returns of the American Fur Company, 1835–1839. *J. Mammal.* 50:836–839.

Pelts of 86 BFFs were shipped in the fur trade during these years.

JOHNSON, M. K., T. W. CLARK, M. H. SCHROEDER, AND L. RICHARDSON. 1986. Fecal bile acids of black-footed ferrets. *Great Basin Nat. Mem.* 8:135–140.

Fecal bile acids in scats of 20 BFFs, 7 other small carnivores, and 72 of unknown origin were analyzed to see if the method could be used to verify BFF presence. Substantial overlap among confidence intervals with other species led to the conclusion that the method is not useful. Gas-liquid chromatography is suggested instead.

JONES, J. K., JR. 1957. Checklist of mammals of Nebraska. *Trans. Kansas Acad. Sci.* 60:273–282.

Provides locations of BFFs collected in Nebraska, and states that BFFs are capable of decimating prairie dog populations.

———. 1964. Distribution and taxonomy of mammals of Nebraska. Publ. University of Kansas Mus. Nat. Hist. 16.

JONES, J. K., JR., AND R. B. LOOMIS. 1953. Additional records of the spotted ground squirrel and black-footed ferret in Kansas. *Trans. Kansas Acad. Sci.* 56:107.

Gives measurements of an unsexed adult BFF from 1944 and states that a few individuals may still inhabit the western part of Kansas.

KANSAS FISH AND GAME COMMISSION. (n.d.) Black-footed ferret investigations. Final report.

Field studies in Cheyenne County, Kansas, 1975–1977 yielded no live BFFs although one had been observed in 1975. A decline in BFF habitat was noted. Report suggests that, if captive breeding provides animals for recruitment, the hurdles of poisoning, harassment, shooting, and habitat stability must still be overcome for populations to become re-established.

KELLOGG, A. R. 1960. Mammals and how they live. Pages 13–15 in *Wild animals of North America*. Nat. Geog. Soc., Washington, D.C.

KILPATRICK, C. W., S. FORREST, AND T. W. CLARK. 1986. Estimating genetic variation in the black-footed ferret—a first attempt. *Great Basin Nat. Mem.* 8:145–149.

No genetic variation was observed for three proteins examined from saliva samples from 22 BFFs. No conclusions can be drawn, however, and suggestions are made for additional approaches.

KOFORD, C. B. 1958. Prairie dogs, whitefaces and blue grama. Wildl. Monogr. No. 3. 78 pp.

Classic discussion of *Cynomys* prairie communities based on fieldwork in Colorado. Details the ecology and trophic relations between prairie dogs and other members of the prairie, including BFF, and man and his domestics. Reference to BFF as obligate predator.

KOHN, S. 1978. Non-game wildlife—its acknowledgement and management. North Dakota Wildl. 40(9):6-7.

Nongame amenities are new in the public mind and have political and governmental support. North Dakota created one position in 1975 to manage nongame with emphasis on the BFF and prairie dog communities.

KURTÉN, B., AND E. ANDERSON. 1972. The sediments and fauna of Jaguar Cave: II—The fauna. Tebiwa 15:21-45.

Twelve BFF remains from Jaguar Cave, Idaho, fall outside the historic species range and date from 10,370 + 350 B.P. Suggested that the BFF, an Old World invader, is not as successful as *M. evermanni* in Eurasia and now exists only as a relict population.

LANTZ, C. L. 1905. Kansas mammals in their relations to agriculture. Bull. Kansas State Agric. Coll. Expt. Sta. 129:331-404.

LAYCOCK, G. 1969. America's endangered wildlife. W. W. Norton and Co., New York. 226 pp.

Popular account of BFF within context of all endangered species.

LECHLEITNER, R. R. 1969. Wild mammals of Colorado: their appearance, habits, distribution, and abundance. Pruett Publ. Co., Boulder, Colorado. 254 pp.

Lists Colorado BFF sightings 1954-1969.

LENGKEEK, D. 1985. Black-footed ferret program in South Dakota. Pages 21.1-21.4 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The history of the BFF in the state is reviewed. Fifteen probable and one confirmed sighting were recorded between 1/1/80 and 1/1/84. The state goal has been to implement effective information and education programs.

LENTZ, R. J. 1964. Status of the black-footed ferret in southeastern Wyoming. Colorado State University Forest Recreation and Wildl. Cons. Dept. Unpublished manuscript.

An early survey for BFFs revealed only three reports (one of value). Three-quarters of respondents felt that BFFs should be protected, although few were familiar with the animal.

LEPPART, G. 1970. Black-footed ferret, a vanishing species. North Dakota Outdoors 32(11):18-20.

Overview article for public education but contains some misinformation. Illustrates BFF sign and requests sighting information.

LEWIS, J. C. 1973. Additional records of black-footed ferret in Oklahoma. Southwest. Nat. 18:350.

Three specimens noted: one undated, one from 1927, and a recent private mount donated to Oklahoma State University.

LEWIS, J. C., AND F. D. HASSIEN. 1973. Status of prairie dogs and surveys for black-footed ferrets in Oklahoma. Pages 60-75 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

Sixty-three BFF reports may be authentic on the state's estimated 15,000 acres of prairie dogs. Despite intensive surveys 1971-1973, no BFFs were found in the Panhandle study area.

———. 1974. Status of prairie dogs and black-footed ferrets in Oklahoma. Proc. Oklahoma Acad. Sci. 54:20-24.

Concludes that BFFs are extinct or rare in the state—despite recent reports—because of lack of evidence during recent intensive surveys.

LIBASSI, P. T. 1974. Five weasay species. Sciences 14(7):23-29.

Popular discussion of status of BFF and different research approaches; also looks at Atlantic green turtle, sandhill crane, Bahaman swallowtail, and Apache trout.

LINDER, R. L. 1973. Black-footed ferret and prairie dog workshop summary. Pages 171-177 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

Summarizes main workshop points, with a reminder that all activities should be conducted for the benefit of "the resource," namely the BFF and the prairie dog.

———. 1985. Recovery Team efforts. Pages 3.1-3.4 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Approved in June 1978, the Recovery Plan was based on available scientific data and presented broad flexible guidelines.

LINDER, R. L., M. E. ANDERSON, E. M. BRIGHAM, C. N. HILLMAN, D. L. LENGKEEK, A. L. LOVAAS, J. K. MCDOWELL, AND W. W. PAINTER. 1978. Black-footed ferret recovery plan. U.S. Fish and Wildl. Serv. 145 pp.

Government plan outlining the objective of "maintaining at least one wild self-sustaining population of BFFs in each state within its former range." State-by-state implementation plan listing lead agencies, cooperators, activity priorities, and budgets. Includes letters of comment by plan reviewers.

LINDER, R. L., R. B. DAHLGREN, AND C. N. HILLMAN. 1972. Black-footed ferret-prairie dog interrelationships. Pages 22-37 in *Symposium on Rare and Endangered Wildlife of the Southwestern United States*, September 22-23, 1972, Albuquerque, New Mexico. New Mexico Dept. Game and Fish, Santa Fe.

South Dakota BFF population and habitat needed to sustain BFF. Purchase or easement of prairie dog colonies suggested as management practice. Results of landowner interviews on attitudes toward prairie dogs included.

LINDER, R. L., AND C. N. HILLMAN, eds. 1973. *Proceedings of the Black-footed Ferret and Prairie Dog Workshop*, Rapid City, South Dakota, 1973. South Dakota State University, Brookings. Offset. 208 pp.

Record of the first BFF-specific symposium (All articles are listed in this bibliography.) Excellent compilation of status of management, ecology, and politics of the rarest North America mustelid.

LIPSKE, M. 1981. Seldom-seen ferrets dress for privacy. *Defenders*, Dec.:11.

Brief description of BFF and its historic range. Includes a list of recent confirmed and probable sightings from 10 western states and two provinces provided by the U.S. Fish and Wildlife Service.

LOCK, R. A. 1973. Status of the black-footed ferret and black-tailed prairie dog in Nebraska. Pages 44-46 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

History of Nebraska prairie dog control reviewed: the state has legislated annual control of colonies since 1903. Number of towns and acreages estimated from unsuccessful 1971 media blitz to locate BFFs.

LONG, C. A. 1965. *The mammals of Wyoming*. University of Kansas Publ. Mus. Nat. Hist. 14:493-755.

Brief technical synopsis with records of occurrence in Wyoming up to 1965; includes state range map.

LOVAAS, A. L. 1973. Prairie dogs and black-footed ferrets in the national parks. Pages 139-148 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

No BFFs are known to exist on National Park Service lands, although past sightings are noted. No intensive surveys have been conducted. However, several parks have prairie dog populations that are controlled to curb emigration and expansion. Some prairie dog community research is being conducted; more is proposed.

MCCANDLESS, A. D. 1908. A week in the saddle. *Forest and Stream* 71:329-330.

Reports a "new enemy"—minklike—decimating prairie dog towns in the Nebraska sandhills. Editor's note suggests it is the BFF.

MCCLUNG, R. M. 1969. Black-footed ferret. Pages 102-104 in *Lost wild America*. William Morrow and Co., New York. 240 pp.

Brief synopsis of our knowledge of BFF: life history, search efforts, and poisoning controversy.

MCNULTY, F. 1970. Reporter at large: controlling the prairie dog and protecting the black-footed ferret in South Dakota. *New Yorker* 46(June 13):40-90.

The BFF is used as a case study in a detailed popular article on the politics and history of wildlife killing by federal agencies.

———. 1971a. Must they die? The strange case of the prairie dog and the black-footed ferret. *Double-day*, Garden City. 86 pp.

The controversial study of prairie dog control and BFF preservation in South Dakota 1964-1970. Skillful description of people and events resulting from USDI's dual poison and protect mandate.

———. 1971b. The black-footed ferret. *Natl. Parks Conser. Mag.* 45:9-13.

Overview article from a journalist who won acclaim for digging out the story about the plight of the BFF.

MADSON, J. 1968. Dark days in dog town—federal policy of poisoning prairie dogs. *Audubon Mag.* 70:38-41.

Critical review of dual role of Bureau of Sport Fisheries and Wildlife and the USDI in managing rodent control and endangered predator the BFF.

MANN, W. N. 1930. Wild animals in and out of the zoo. *Smithsonian Sci. Ser.* 6:287.

Captive BFF lifespan reported to be five years.

MARTIN, D. G. 1973. Ferret and prairie dog programs on Indian reservations. Pages 136-138 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Prairie dogs considered infestations on North and South Dakota Indian land, covering 70 thousand acres on seven reservations. Surveys conducted for BFF prior to control.

MARTIN, P. R. 1978. Black-footed ferret inventory and management development plan for southeastern Montana. *Montana Fish Game Dept.* 31 pp.

Positive circumstantial BFF evidence was found on 4 of 20 prairie dog towns surveyed in Montana in 1978, and one possible sighting was made. Recommendations for easements on critical habitat and future study are made.

MARTIN, S. J. 1983. Additional records of black-footed ferrets in Wyoming. *Southwest. Nat.* 28:95.

Reports finding of six BFF skulls in south central and southwestern Wyoming 1978–1979.

MARTIN, S. J., AND M. H. SCHROEDER. 1979. Black-footed ferret surveys on seven coal occurrence areas in southwestern and southcentral Wyoming, June 8 to September 25, 1978. Final rept. Wyoming State Office, BLM. 37 pp.

A single skull with teeth and mandible and some other bones were found in a survey of coal areas in Wyoming.

———. 1980. Black-footed ferret surveys on seven coal occurrence areas in Wyoming, February–September, 1979. Final rept. Wyoming State Office, BLM. 39 pp.

Five BFF skulls were found in surveys of coal areas in Wyoming.

MASTERTON, L., AND J. M. CHILD. 1973. The black-footed ferret—predator in peril. *Anim. Kingdom* 76(2):9–11.

Reviews conflict of prairie dogs being on the “pest list” and BFFs on the endangered list. Mentions the 1080 ban and Patuxent Wildlife Research Center’s capability to breed BFFs in captivity.

MEAD, J. R. 1885. Note on two Kansas mammals. *Bull. Washburn Coll. Lab. Nat. Hist.* 1:91–92.

Author relates observation of BFF in prairie dog colony while bison hunting north of Saline River in 1860.

MENKENS, G. E., JR., AND S. H. ANDERSON. 1985. Current prairie dog research. Pages 8.1–8.10 in S. Anderson and D. Inkley, eds., *Black-footed Ferret Workshop Proc.*, Laramie, Wyoming, September 18–19, 1984. Wyoming Game and Fish Publ., Cheyenne.

Reviews recent literature on ecology and population biology of prairie dogs and describes research on effect of seismic activity on white-tailed prairie dogs.

MERRIAM, C. H. 1896. Synopsis of the weasels of North America. *U.S. Biol. Surv. North Amer. Fauna No.* 11. U.S. GPO, Washington, D.C. 33 pp.

Review of two subgenera *Putorius* (BFF) and *Ictis* (all other *Mustela*). Notes the similarity of BFF to *Putorius eversmanni* and *P. putorius*.

MERRICK, B. J. 1973. Problems and needs in black-footed ferret and prairie dog management. Pages 164–167 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Accuses agencies of mismanaging predator/rodent control programs. Lists a series of immediate research/management goals including captive breeding and trans-planting of populations.

MILLER, G. S. 1912. List of North American land mammals in the United States National Museum, 1911. *Bull. U.S. Nat. Mus.* 79:1–455.

BFF nomenclature determined as *Mustela nigripes*.

MILNE, L. J. AND M. MILNE. 1971. The cougar doesn’t live here anymore. Prentice-Hall, Englewood Cliffs, New Jersey.

MOON, G. F. 1905. What have I got? *Trappers World* 1(5):4.

MOORS, P. J. 1950. Sexual dimorphism in the body size of mustelids (Carnivora): The roles of food habits and breeding systems. *Oikos* 34:147–158.

Sexual dimorphism in the mustelids is discussed.

MORE FERRETS FOUND—MAYBE. 1981 *Sci. News* 121:376.

News item on early research efforts on BFF population found in 1981. Photo.

MURIE, O. J. 1954. A field guide to animal tracks. Peterson field guide series 9. Houghton Mifflin, Boston. 375 pp.

Drawings of right front and hind tracks as well as scats from Garst’s captive BFFs in Douglas, Wyoming.

NELSON, E. W. 1918. Smaller mammals of North America. *Natl. Geog. Mag.* 33:391–493.

This early popular account calls BFFs parasites in prairie dog colonies preying on the “hapless colonists.” They are certain to disappear with the “inevitable extinction” of prairie dogs. Includes a color print of Louis Agassiz Fuertes’ painting of the BFF.

NICE, J. 1982. Endangered species: A Wyoming town becomes ferret capital. *Audubon* 84(4):106–109.

Description of events following location of Meeteetse, Wyoming, BFF population in the fall of 1981.

———. 1983. Long road to recovery. *Natl. Wildl.* 21:16–19.

A popular account of the primary actors in the second year of the Wyoming BFF program.



- NOVILLA, M. N., J. W. CARPENTER, AND R. P. KWAPIEN. 1978. Dual infection of Siberian polecats with *Encephalitozoon cuniculi* and *Nepatozoon mustelisi* n. sp. Paper presented at Symp. Comp. Path. Zoo Anim., Nat. Zool. Park, Washington, D.C., October 2-4.
- Seven three-week old Siberian polecats died from dual infections. Encephalitozoonosis and hepatozoonosis may have ecological implications for the BFF.
- OLIN, G. 1954. Animals of the southwest deserts. Southwest. Monuments Assoc. Pop. Ser. No. 8. Globe, Ariz. 112 pp.
- OVER, W. H., AND E. P. CHURCHILL. 1941. Mammals of South Dakota. University South Dakota Mus. Zool., Brookings. 59 pp.
- PETERSON, L. A., AND E. D. BERG. 1954. Black-footed ferrets used as ceremonial objects by Montana Indians. J. Mammal. 35:593-594.
- Four Crow BFF relics located in Pryor, Montana. Skulls retained in skins.
- PETTUS, D. 1985. Genetics of small populations. Pages 22.1-22.11 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.
- Determining the level of genetic heterogeneity in BFFs should have high priority in recovery planning, since it is unknown whether they are subject to inbreeding depression, and critical management decisions rest on this information.
- POWELL, R. A. 1979. Mustelid spacing patterns: variations on a theme by *Mustela*. Z. Tierpsychol. 50: 153-165.
- Review of mustelid spacing patterns. Suggests BFF exhibits intrasexual territoriality.
- \_\_\_\_\_. 1982. Prairie dog coloniality and black-footed ferrets. Ecology 63:1967-1968.
- Suggests that range overlap of BFF with that of the highly colonial black-tailed prairie dog caused the prairie dog adaptation for denser colonies. See response by Hoogland 1982.
- POWELL, R. A., T. W. CLARK, L. RICHARDSON, AND S. C. FORREST. 1985. Black-footed ferret (*Mustela nigripes*) energy expenditure and prey requirements. Biol. Cons. 33:1-15.
- An additive model to estimate BFF energy expenditure (for running, digging, investigating burrows, and thermoregulation) was based on field data from the Wyoming population and lab data from Siberian polecats. A BFF should eat 20 prairie dogs during the four winter months. More are needed by lactating females in summer. Implications for conservation are discussed.
- PRAIRIE DOGS POISONED WITH "1080" ON PUBLIC LANDS IN SOUTH DAKOTA: the endangered species, black-footed ferret, also found there. 1965. Defenders Wildl. News 40(3):47.
- News article on government use of 1080 on 500,000 acres of Bureau of Land Management and Bureau of Indian Affairs lands in response to stockmen's requests.
- PROGUSKE, D. R. 1969. Observations of a penned, wild captured black-footed ferret. J. Mammal. 50:619-621.
- Male BFF captured in South Dakota was held in an outdoor cage at a mink ranch for seven months. Activity patterns, behavior, condition, size, and feeding and killing behaviors were noted.
- RANDALL, D. 1977. Only a few years left for Wyoming's ferrets. Defenders 52(2):113-116.
- Review of Clark's Wyoming BFF search efforts and the state and federal policy problems associated with managing predators.
- \_\_\_\_\_. 1981. America's rarest mammal comes in from the cold. Defenders (Dec.):9-10.
- The first popular account of the Meeteetse BFF find, describing some initial conservation studies.
- \_\_\_\_\_. 1983. Born-again ferrets. Defenders 58(4):2-6.
- Popular account of the many interests affected by the discovery of BFFs in Meeteetse, Wyoming—ranchers, management agencies, biologists.
- RICHARDSON, L., T. W. CLARK, S. C. FORREST, AND T. M. CAMPBELL III. 1985. Snowtracking as a method to search for and study the black-footed ferret. Pages 25.1-25.11 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.
- Snowtracking is used on the Wyoming population to census BFFs and study winter ecology, specifically movements, activity area sizes, hunting behavior, intra- and inter-specific interactions, and markings.
- \_\_\_\_\_. 1986. Black-footed ferret recovery: a discussion of some options and considerations. Great Basin Nat. Mem. 8:169-184.
- A framework for recovery planning is presented since current numbers are insufficient to maintain long-term viability. Three options to increase BFF numbers include increasing habitat at their present location, finding more wild ferrets elsewhere, and directly manipulating the population through translocation and/or captive rearing—this last is strongly recommended, and accompanying considerations are presented.
- ROBINSON, L. D. 1973. Black-footed ferret and prairie dog programs on Forest Service administered lands. Pages 125-133 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

Prairie dog control on Forest Service units is accompanied by precontrol BFF surveys. The most serious management problem is determining presence of BFFs.

ROOSEVELT, T. 1893. The wilderness hunter; an account of the big game of the United States and its chase with horse, hound, and rifle. G. F. Putnam's Sons, New York. 472 pp.

Derivative but colorful report of the BFF "as blood-thirsty as the mink itself."

ROSE, D. J. 1973. History of prairie dogs in South Dakota. Pages 76-78 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

Points out the role of federal lands as reservoirs for rodent pests. Rate of control is proportional to the health of the cattle market and drought.

ROSEBERRY, J. 1985. Wyoming BLM's role in black-footed ferret management. Pages 13.1-13.3 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The BLM receives and checks out BFF reports, participates in management meetings, and funds and sponsors research and publications, as well as conducting related activities such as prairie dog inventories and prairie dog habitat management plans.

RUSSELL, R. H. 1985. The black-footed ferret in Canada. Pages 20.1-20.2 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

In 1983, the Committee on the Status of Endangered Wildlife in Canada formally designated the BFF as extirpated; the last specimen was collected in Saskatchewan in 1937. Recent possible sightings, however, led wildlife agencies to institute surveys in 1985.

SANZ, R. AND T. SHOEMAKER. 1984. The significance of trenching as a diagnostic characteristic of the black-footed ferret in white-tailed prairie dog colonies. Symposium on Issues in Technology and Management of Impacted Western Wildlife, Steamboat Springs, Colorado, November 1982.

In a brief survey in 1980, the lack of other evidence of BFF presence to corroborate 26 "trenches" led the author to suggest that "trenches" may not be diagnostic of BFF presence on white-tailed prairie dog colonies.

SASKATCHEWAN DEPARTMENT OF TOURISM AND RENEWABLE RESOURCES. 1978. The status of the black-footed ferret *Mustela nigripes* (Audubon and Bachman) in Canada. Status repts. and evaluations., vol. 1.

SCHANTZ, V. S. 1943. Mrs. M. A. Maxwell, a pioneer mammalogist. J. Mammal. 24:464-466.

A BFF in the collection of an early woman naturalist in Colorado is verified by E. Coues.

SCHMIDLY, D. J. 1977. The mammals of trans-Pecos Texas. Texas A&M University Press, College Station. 25 pp.

SCHMITT, G. 1982. Black-footed ferrets. New Mexico Wildl. 27(3):16-17.

Overview of BFF's plight with reference to New Mexico. Lists seven counties where BFFs have been collected and an eighth credible sighting. Requests public input in a publicity campaign to locate BFFs.

SCHNEIDER, B. 1971. Montana's mystery mammal. Montana Outdoors 2(4):30-35.

Overview of history, identification, life history, behavior, and population status in Montana.

SCHREINER, K. 1973. Goals in endangered species management. Pages 4-10 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

Written in reference to Endangered Species Conservation Act of 1969 but applies equally to the 1973 Endangered Species Act. Reviews legislated species conservation mandate and the nature of recovery plans and recovery teams.

SCHROEDER, M. H. 1985. U.S. Fish and Wildlife Service guidelines for black-footed ferret surveys. Pages 27.1-27 in S. Anderson and D. Inkley, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

A summary of the standardized "Black-footed ferret guidelines for compliance with the Endangered Species Act." Reviews the purpose of the guidelines, areas to be surveyed, methods and timing, kinds of data and training needed, coordination of survey methods, and procedures if BFFs are found.

SCHROEDER, M. H. AND S. J. MARTIN. 1982. Search for the black-footed ferret succeeds. Wyoming Wildl. XLVI(7):8-9.

Popular description of location of BFF population near Meeteetse, Wyoming, in the fall of 1981 and the subsequent telemetering of a male BFF.

SETON, E. T. 1929. Lives of game animals; an account of those land animals in America north of the Mexican border, which are considered "game," either because they have held the attention of sportsmen, or received the protection of law. Doubleday, Doran Co., Garden City, New York. 4 vol.

The first detailed popular account of BFF size and color, history, numbers, range and "haunts," breeding habits, food, disposition, and "amusements," closing with a lament for its probable extinction from prairie dog extermination. Quotes many earlier authors.

SHEETS, R. G. 1970. Ecology of the black-footed ferret and the black-tailed prairie dog. Unpublished thesis, South Dakota State University, Brookings. 42 pp.

Eighteen excavated prairie dog burrows yielded 82 BFF scats, the contents of which were 86% prairie dog. A BFF-occupied prairie dog town had a significant decrease in prairie dog population. BFF diggings are compared to prairie dog diggings. BFF capture techniques are compared.

———. 1972. A trap for capturing black-footed ferrets. *Amer. Midl. Nat.* 88:461–462.

Photograph and description of successful use of tubular live-trap for capturing BFFs.

SHEETS, R. G., AND R. L. LINDER. 1969. Food habits of the black-footed ferret (*Mustela nigripes*) in South Dakota. *Proc. South Dakota Acad. Sci.* 48:58–61.

Food habits of a female BFF and four young were studied during summer 1968. Six prairie dog burrows were excavated and 56 BFF scats recovered. Prairie dog composed 82% of animal matter in the scats.

SHEETS, R. G., R. L. LINDER, AND R. B. DAHLGREN. 1972. Food habits of two litters of black-footed ferrets in South Dakota. *Amer. Midl. Nat.* 87:249–251.

Eighty-two scats recovered from 17 excavated black-tailed prairie dog burrows occupied by two female BFFs and their young were analyzed. Contents were primarily prairie dogs and mice.

SHELFORD, V. E. 1940. The smaller mammals of the Great Plains. *Science* 91:167–168.

Plains rodent population expanded at the turn of the century, and this created competition with stock. Refers to Merriam, who stated the BFF alone could hold prairie dogs in check. Suggests setting aside undisturbed ecosystems to study the life history and interactions of prairie species.

SHUFELDT, R. W. 1889. The carnivora. *Forest and Stream* 32:335.

States simply that *Putorius nigripes*, called the American or black-footed ferret, occurs in central regions east of the Rocky Mountains.

SHUMP, A. U., K. A. SHUMP, JR., G. A. HEIDT, AND R. J. AULERICH. 1974. A bibliography of Mustelids. Part 1: Ferrets and polecats. *Michigan Agric. Expt. Sta. Journal Article No. 6977*. 54 pp.

The first of a series of mustelid bibliographies, arranged by nine subject headings, covers literature 1900–1974.

SNOW, C. 1972. Black-footed ferret (*Mustela nigripes*). *Habitat Manage. Ser. for Unique or Endangered Species*. Tech. Note 168–2. BLM-USDI, Denver. 23 pp.

Semitechnical account of BFF ecology, with short bibliography.

SOPER, J. D. 1946. Mammals of the northern Great Plains along the international boundary in Canada. *J. Mammal.* 27:127–153.

Records of BFF specimens from southwestern Saskatchewan and southern Alberta.

———. 1961. Field data on the mammals of southern Saskatchewan. *Canadian Field-Nat.* 75:23–41.

Lists BFF as rare in southwestern Saskatchewan and southern Alberta. Cites eight documented occurrences of BFF ca 1907–1935, seven of these from Saskatchewan.

———. 1964. *The mammals of Alberta*. Hamly Press, Edmonton, Alberta. 402 pp.

SOUTH DAKOTA COOPERATIVE WILDLIFE RESEARCH UNIT, BROOKINGS. 1963–. Quarterly report, vol. 1–.

Quarterly reports include reports of continuing Unit project on BFF population located in Mellette County.

SOUTHWEST RESEARCH INSTITUTE. 1979. Training of dogs to detect black-footed ferrets. Final report.

Ten-month study to train dogs (*Canis familiaris*) to search for and discriminate BFF odors.

SPARKS, E. A. 1973. Prairie dogs and black-footed ferrets in Utah. Pages 102–104 in R. L. Linder and C. N. Hillman, eds., *Proc. Black-footed Ferret and Prairie Dog Workshop*, South Dakota State University, Brookings.

Only one BFF reported (1952) in Utah. Prairie dog populations have declined; *Cynomys parvidens* is endangered.

SPERRY, C. C. 1941. Food habits of the coyote. *U.S. Fish Wildl. Serv. Wildl. Res. Bull. No. 4*. 70 pp.

Analysis of 8,339 coyote (*Canis latrans*) stomach contents yielded 3 BFF remains.

STANLEY, A., AND P. YOUNG. 1954. Black-footed ferret (*Mustela nigripes*) in South Dakota. *J. Mammal.* 35:443.

Note on a road-killed female BFF in South Dakota in 1952 and deposition of skin and skeleton.

STRECKER, J. K. 1926. A checklist of the mammals of Texas, exclusive of the Sirenia and Cetacea. *Baylor University Bull.* 29(3):1–48.

- STRICKLAND, D. 1983. Ferret update. Wyoming Wildl. 47(3):4-6.
- Account of Wyoming Game and Fish Department's activities in relation to the Meeteetse BFF find. Emphasis on administration; gives some biological information.
- STROMBERG, M. R., R. L. RAYBURN, AND T. W. CLARK. 1981. Black-footed ferret prey requirements: an energy balance estimate. J. Wildl. Manage. 47:67-73.
- This prey-use model estimates annual BFF energy needs for reproduction and determines ranges of prey numbers and BFF densities based on prey unit energy availability. Size of BFF preserve considered.
- STUART, J. E. B., AND A. G. CHRISTENSEN. 1973. The status of black-footed ferrets and prairie dogs in New Mexico. Pages 47-50 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.
- Despite recent sightings, the status of BFFs in New Mexico is unknown. BFFs are often confused with bridled weasels (*Mustela frenata neomexicana*). Prairie dog numbers are increasing. Nongame protection legislation for endangered species is being considered.
- STUART, R. W. 1973. Needs in ferret and prairie dog management. Pages 149-153 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.
- Proposes that best management for BFFs is management of prairie dogs by states through land acquisition and easements, with cost shared nationally.
- SVENDSEN, G. E. 1982. Weasels. Pages 613-628 in J. A. Chapman and G. A. Feldhamer, eds., Wild mammals of North America: biology, management, and economics. Johns Hopkins University Press, Baltimore. 1, 147 pp.
- Synopsis of the ecology of two subgenera *Putorius* and *Mustela*. Claims that the BFF was useful to settlers because it inhibited prairie dog colony expansion. Notes that, because captive breeding trial failed, it appears that habitat preservation is the only way to save the species. However, he cites Hillman et al. 1979 as evidence that increasing prairie dog abundance does not increase BFF numbers.
- SWENK, M. H. 1908. A preliminary review of the mammals of Nebraska. University of Nebraska Stud. Zool. Lab. 89:74.
- Gives state records for the BFF, noting that it is not abundant there and is nearly always found near prairie dog towns. Locates the range, "Great Plains from North Dakota to northern Texas and west into the Rocky Mountains up to 10,000 feet."
- TAYLOR, D. 1961. Notes on a recent collection of a black-footed ferret. Trans. Kansas Acad. Sci. 64:41.
- Gives circumstances of collection and measurements of a male BFF caught by a "gloved hand" in Kansas in 1957.
- TAYLOR, W. P., AND W. B. DAVIS. 1947. The mammals of Texas. Bull. Texas Game, Fish, Oyster Comm. No. 27. 79 pp.
- Brief account of characteristics and Texas distribution. Notes that BFF, now nearly extinct, is among the least known of more than 200 Texas mammals. Its "undoing" is its close association with prairie dogs.
- THORNE, E. T., M. H. SCHROEDER, S. C. FORREST, T. M. CAMPBELL III, L. RICHARDSON, D. BIGGINS, L. R. HANEURY, D. BELITSKY, AND E. S. WILLIAMS. 1985. Capture, immobilization, and care of black-footed ferrets for research. Pages 9.1-9.8 in S. Anderson and D. Inkle, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.
- From August 1982 to September 1984, 59 BFFs were live-trapped and chemically immobilized without mortality or serious injury. Capture procedures, handling, and drugging techniques, along with precautions taken to prevent introduction of diseases are described.
- TORRES, J. R. 1973. The future of the black-footed ferret in Colorado. Pages 27-33 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.
- Discusses history of BFF sightings (one high elevation), distribution of three prairie dog species in Colorado. Prairie dog inventory is planned with the goal of locating BFF habitat.
- TRUE, F. W. 1885a. The American ferret. Science 6: 549-550.
- Introduces the BFF because "its rarity recommends it," notes the few specimens available, includes a drawing.
- \_\_\_\_\_. 1885b. A black-footed ferret from Texas. Amer. Nat. 19:720.
- BFF from Gainesville, Cooke County, Texas, was the second specimen recorded for the state. The first was from Abilene.
- TRUEX, R. C., R. BEJEL, L. M. GINSBERG, AND R. L. HARTMAN. 1974. Anatomy of the ferret heart: an animal model for cardiac research. Anat. Rec. 179:411-422.
- Thirty-eight "black-footed ferret" hearts were studied with physiologic, microdissection, vascular injection, and histological methods. We question the species identification here.

- TURNELL, J. 1985. The private landowner perspective. Pages 6.1-6.3 in S. H. Anderson and D. B. Inkleby, Black-footed Ferret Workshop Proceedings, September 18-19, 1984, Laramie Wyoming. Wyoming Game Fish Dept.
- A Meeteetse rancher talks about the impacts of having BFFs on his land and his participation in the BFF Advisory Team.
- TURNER, R. W. 1974. Mammals of the Black Hills of South Dakota and Wyoming. University of Kansas Mus. Nat. Hist. Misc. Publ. No. 60. 178 pp.
- States that the BFF is holding its own in western South Dakota but that land use and rodent control are changing distribution and abundance throughout the range. Only a few records are from the Black Hills. States that restocking of the state parks and national monuments could insure survival of BFFs.
- TWO RARE PORTRAITS OF TWO RARE CREATURES; black-footed ferret and Attwater's prairie chicken. 1968. Natl. Wildl. 6(2):42-43.
- Color photograph of a BFF.
- TYLER, J. D. 1968. Distribution and vertebrate associates of the black-tailed prairie dog. Unpublished dissertation, Oklahoma State University, Stillwater. 85 pp.
- USDI. 1965. Survival or surrender for endangered wildlife. Fish Wildl. Serv. Circ. No. 233. U.S. GPO, Washington, D.C. 15 pp.
- USDI. Resource publications. U.S. Bur. Sport Fish. Wildl. Several reports are cited, as follows:
- USDI. 1968. Rare and threatened fish and wildlife of the United States. No. 34, mixed paging, M-15.
- Fact sheet on BFFs and other T&E species.
- USDI. 1970. Rare and endangered wildlife. Page 112 in Wildlife research. No. 85.
- Two females were caught and tagged in South Dakota, and their litters were observed in life history studies. Recent sightings extended BFF range 200 miles westward and eastward to within 35 miles of the Minnesota border. Sightings suggest a widely dispersed group of small, sparse populations.
- USDI. 1971. Rare and endangered wildlife. Page 104 in Wildlife research. No. 94.
- Seven BFFs were seen in western South Dakota in 1969, for a total of 30 individuals seen 54 times from 1966 through 1969 by Bureau of Sport Fisheries and Wildlife personnel. Summary of scat analysis. Suggests that BFFs diminish populations of *C. ludovicianus*.
- USDI. 1972. Endangered species research. Page 106 in Wildlife research, 1971: problems, programs, progress. No. 111.
- Western states survey prairie dog towns for BFFs. Discusses differences in colony characteristics of prairie dog species.
- USDI. 1973. No. 94, p. 82. Rare and endangered species. Black-footed ferret.
- USDI. 1973. No. 114, p. 289. Threatened wildlife of the United States.
- USDI. 1969. The right to exist; a report on our endangered wildlife. U.S. Bur. Sport Fish. Wildl. U.S. GPO, Washington, D.C. 12 pp.
- The BFF is an example of an endangered species whose habitat and prey base have been interrupted by human activities. Suggests preservation of dog towns.
- USDI. 1975. Ferret-polecat research. In Fish and Wildlife News. Holiday issue, back page.
- USDI. Fish and Wildlife Service. Patuxent Wildlife Research Center, Laurel, Maryland. Several unpublished reports are cited:
- USDI. 1976a. Protection of the black-footed ferret during animal control operations. 4 pp.
- Summarizes development of BFF precontrol surveys and zinc phosphide application guidelines for control use in Montana. Describes 1975-1976 Pine Ridge Indian Reservation and Buffalo Gap National Grassland surveys, where BFF sign was observed. Habitat preservation and management implication of control programs stated.
- USDI. 1976b. Development of methods for monitoring black-footed ferret mobility. 1 p.
- Plan to develop BFF telemetry techniques. Also mentions trip to Soviet Union to procure 48 Siberian polecats.
- USDI. 1976c. Geographic distribution of the black-footed ferret. 3 pp.
- Second consecutive year with no BFF sightings in South Dakota.
- USDI. 1976d. Factors influencing reproduction of black-footed ferrets in confinement. 3 pp.
- Work with captive BFFs and Siberian polecats, including birthing of five BFFs. None survived, apparently due to maternal neglect. Death of diabetic BFF.
- USDI. 1977a. Factors influencing reproduction of black-footed ferrets in confinement. 3 pp.
- Successful captive mating of one BFF pair. One live kit was produced but did not survive. Successful breeding of Siberian polecats and artificial ejaculation and insemination techniques.
- USDI. 1977b. Geographic distribution of the black-footed ferret.

Review of the work on the Mellette County, South Dakota, BFF population. Recommends development of improved detection methods, extensive surveys, and habitat research.

USDI. 1977c. Development of methods for monitoring black-footed ferret mobility.

Experiments with telemetering Siberian polecats, with discussion of problems.

USDI. Fish and Wildlife Service. Endangered Species Technical Bulletin. Several issues reported news of the ferret:

USDI. 1977. Special report: captive breeding time slipping away for black-footed ferret. ESTB 2(11): 10-11.

Describes problems of two captive breeding pairs of BFFs, including age, health, and possible genetic problems. Researchers concerned about factors limiting reproduction in the wild, such as small litter sizes, lack of prey diversity, canine distemper virus, and subterranean life.

USDI. 1978a. Black-footed ferret tied to prairie dog management. ESTB 3(7):1,6.

Approval of recovery plan of FWS. Notes that prairie dog management is crucial, describes original range, decline, and outlines recommendations.

USDI. 1978b. Regional briefs, Region 6. ESTB 3(2):2.

Regional FWS personnel and recovery team cooperate to train ferret-finding dogs in South Dakota.

USDI. 1978c. State report: Black-footed ferret, peregrine head New Mexico's agenda of endangered species program. ESTB 3(6):4-5.

New Mexico contracted for the training of two dogs to search for BFFs in towns slated for poison control, with plans to relocate any BFFs found.

USDI. 1979a. Endangered species: new challenge for the Navajo. ESTB 4(6):7-10.

The Navajos enacted a tribal endangered species act that includes the BFF. Several potential BFF areas exist on the Navajo Reservation. Some sign and one sighting from 1973 to 1974 search efforts led to continued surveys and publicity. Dog towns are surveyed prior to control efforts.

USDI. 1979b. Regional briefs, Region 6. ESTB 4(4):2-3.

Two FWS personnel and four dogs are trained to locate BFFs in Region 6.

USDI. 1979c. Regional briefs, Region 6. ESTB 4(11):2.

FWS awards contract for BFF search of 4,000 ha of prairie dog colonies with Labrador retrievers. Most locations in South Dakota.

USDI. 1980a. Fisheries and wildlife research, 1980. Fish and Wildlife Service. U.S. GPO, Washington, D.C.

Highlights BFF survey activities in Wyoming, captive breeding and canine-distemper vaccine experiment at Patuxent Wildlife Research Center, and mammary tumor and death of captive BFF.

USDI. 1980b. Ross A. Lock. Black-footed ferret, whooping crane, and bald eagle protected in Nebraska. ESTB 5(2):4-7.

Review of Nebraska's endangered species programs, including solicitation of BFF reports. No evidence has surfaced since 1949.

USDI. 1981a. Regional briefs, Region 6. ESTB 6(7):3.

Several BFF sightings (one confirmed) reported in May and June 1981: Lyman and Putte counties, South Dakota; Uinta and Goshen counties, Wyoming; and Moffat County, Colorado.

USDI. 1981b. Regional briefs, Region 6. ESTB 6(8):3.

Report on questionnaire to determine current range of BFFs revealed 228 sightings. All states reported sightings since 1970 except Arizona.

USDI. 1981c. Regional briefs, Region 6. ESTB 6(10):3.

Dog-killed BFF collected near Meeteetse, Wyoming, 25 September 1981. First confirmed report since 27 March 1979, Dodd County, South Dakota, sighting.

USDI. 1981d. Regional briefs, Region 6. Black-footed ferret findings give biologists new hope. ESTB 6(12):1,6-7.

Successful short-term radio telemetry of male BFF at Meeteetse, Wyoming. Two photos.

USDI. 1982a. Fisheries and wildlife research, 1981. Fish and Wildlife Service. U.S. GPO, Washington, D.C. 114 pp.

Brief description of BFF killed in Meeteetse, Wyoming, in 1981. First Wyoming report since 1972 stock pond-drowned individual.

USDI. 1982b. Regional briefs, Region 6. ESTB 7(3).

T. Clark finds dead BFF on Meeteetse study area; another dead BFF found just north of Meeteetse.

USDI. 1982c. Regional briefs, Region 6. ESTB 7(4):6.

Wyoming Game and Fish Department appointed lead agency for Wyoming BFF recovery effort. Advisory team made up of representatives from Wyoming Game and Fish, Bureau of Land Management, Forest Service, Fish and Wildlife Service, University of Wyoming, and private landowner.

USDI. 1982d. Regional briefs, Region 6. ESTB 7(5).

Report of a "test" in South Dakota and Kansas during summer 1981 to stimulate reports of BFFs through publicity; of 26 reports, about 1/4 were deemed "probable."

USDI. 1982e. Regional briefs, Region 6. ESTB 7(6):5.

In addition to 9 BFFs reported by FWS biologists in November 1981, 11 more have been revealed by ISU/Biota snowtracking efforts. Fieldwork to continue.

USDI. 1982f. Regional briefs, Region 6. ESTB 7(12):6.

Two South Dakota State University students logged 650 hours searching for BFF sign in Mellette County, South Dakota, where last BFF was seen in 1972. No evidence of BFFs was found.

USDI. 1983a. Regional briefs, Region 6. ESTB 8(1).

D. Belitsky hired by Wyoming Game and Fish Department for BFF coordinator position.

USDI. 1983b. Regional briefs, Region 6. ESTB 8(2):8.

BFF Advisory Team meeting in December 1982 discusses future research and management for Meeteetse population; biologists continue winter surveys.

USDI. 1983c. Only known ferret population receives careful attention. ESTB 8(3):5-8.

Report of research activities by FWS and ISU/Biota since discovery of BFF 1 1/2 years earlier; history of BFFs; development of BFF Advisory Team; threats; and plans for recovery.

USDI. 1983d. Regional briefs, Region 6. ESTB 8(4).

Several documents being developed for management and recovery of BFF by Recovery Team, Region 6, BFF Advisory Team, and FWS Division of Research.

USDI. 1983e. Regional briefs, Region 6. ESTB 8(5):3.

Interim Management Guidelines Committee of BFF Advisory Team began drafting guidelines and announced operational protocol for researchers, photographers, and others in the BFF-occupied areas. Presentations were made in a town meeting in Meeteetse.

USDI. 1983f. Regional briefs, Region 6. ESTB 8(7):11.

Report of Recovery Team meeting in Rapid City with plans for revision of Recovery Plan.

USDI. 1983g. Regional briefs, Region 6. ESTB 8(8):9.

Report of BFF Advisory Team meeting agenda of increasing efforts to locate, capture, and mark BFFs while minimizing impact on the population; litter surveys ongoing.

USDI. 1983h. Regional briefs, Region 6. ESTB 8(9):6.

Max Schroeder leads workshops in Utah, Colorado, South Dakota, and Montana to educate field personnel in recognizing BFF sign and conducting surveys.

USDI. 1983i. Regional briefs, Region 6.

M. Schroeder hired as regional BFF specialist to coordinate research and management with all involved agencies.

USDI. 1984. Regional briefs, Region 6. ESTB 9(2):8.

Male BFF found east of Cody, Wyoming, in June 1983 subsequently identified as a European polecat.

VAN RIPER, W., AND R. J. NIEDRACH. 1946. Black-footed ferret. Nat. Hist. 55:466-467.

Five photos of BFFs with short article. Called a useful weasel because it lowers prairie dog populations and doesn't disturb humans.

VELICH, R. 1961. Notes on mammals from Nebraska and southwestern Iowa. J. Mammal. 42:92-94.

Author acquired mounted female BFF taken near Anselmo, Custer County, Nebraska, in 1938.

WAGGONER, D. 1965. Burying a weasel. Defenders Wildl. News 40(4):39.

Poem about the BFF reprinted from *Saturday Review*.

WARREN, E. R. 1906. Mammals of Colorado. Colo. Coll. Publ. Gen. Ser. No. 19 (Sci. Ser. 46):225-274.

Lists high elevation BFF collections from Teller and El Paso counties, Colorado.

———. 1910. The mammals of Colorado, their habits and distribution. C. P. Putnam's Sons, New York. 2d ed., 1943, University of Oklahoma Press, Norman. 330 pp.

This early technical description includes skull characteristics and the Colorado distribution, including specimens from 3,075 m elevation and from west of the Continental Divide. Notes its association with prairie dogs and its "curious history of having been lost to science for many years" after its description by Audubon and Bachman.

———. 1921. The small mammals of Colorado. Colorado Mount. Club Publ. No. 7. Denver. 31 pp.

WEAVER, J. L., AND T. W. CLARK. 1979. Mammals. Pages 63-76 in T. W. Clark and R. D. Dorn, eds., Rare and endangered vascular plants and vertebrates of Wyoming. Offset. 78 pp.

Synopsis of Wyoming records, habits, and habitat of BFFs. Map of locations.

WEMMER, C. 1955. Black-footed ferret management and research: views of a zoo biologist. Pages 31-31.10 in S. Anderson and D. Inkle, eds., Black-footed Ferret Workshop Proc., Laramie, Wyoming, September 18-19, 1984. Wyoming Game and Fish Publ., Cheyenne.

The major challenges of captive animal management are to simulate ecological and demographic factors vital to preserving genetic variability and to minimize the risks of extinction to which small populations are prone.

YANONE, V. D. 1973. The black-footed ferret in Montana. Pages 41-44 in R. L. Linder and C. N. Hillman, eds., Proc. Black-footed Ferret and Prairie Dog Workshop, South Dakota State University, Brookings.

BFF status is unknown. Two road kills occurred 1952-1972. Most sightings from this century have been from the southeastern part of the state. The population has been reduced by (1) prairie dog control, (2) 1080 poisoning, (3) loss of habitat, and (4) road kills and shooting.

YOUNG, S. P. 1940. "Black boots" of the prairies. Amer. Forests 46:16-18.

Early popular article with photographs of a 1927 specimen from Montana. Interesting description of the controversy over the BFFs existence during the late 1800s, which culminated in Coues' successful location of specimens. Good description of natural history, although there are some technical errors.

———. 1946. Sketches of American wildlife. Monumental Press, Baltimore. 143 pp.

Provides good history of the documentation and controversy of the "black boots of the prairies" as well as basic life history information and six excellent 1929 photos (presumed to be the earliest taken of wild BFFs).

———. 1954. Black-footed ferret (*Mustela nigripes*) in South Dakota. J. Mammal. 35:443.

A road kill in Perkins County, South Dakota, in October 1952 is recorded and deposition of the skin and skeleton is noted.

YOUNG, S. P., AND A. F. HALLORAN. 1952. Arizona specimens of the black-footed ferret. J. Mammal. 33: 251.

Specimens from the most westerly portion of the species' range were collected in east central Arizona. One specimen collected in 1917 and a second in 1929.

4738 1927